

Name \_\_\_\_\_

Date \_\_\_\_\_

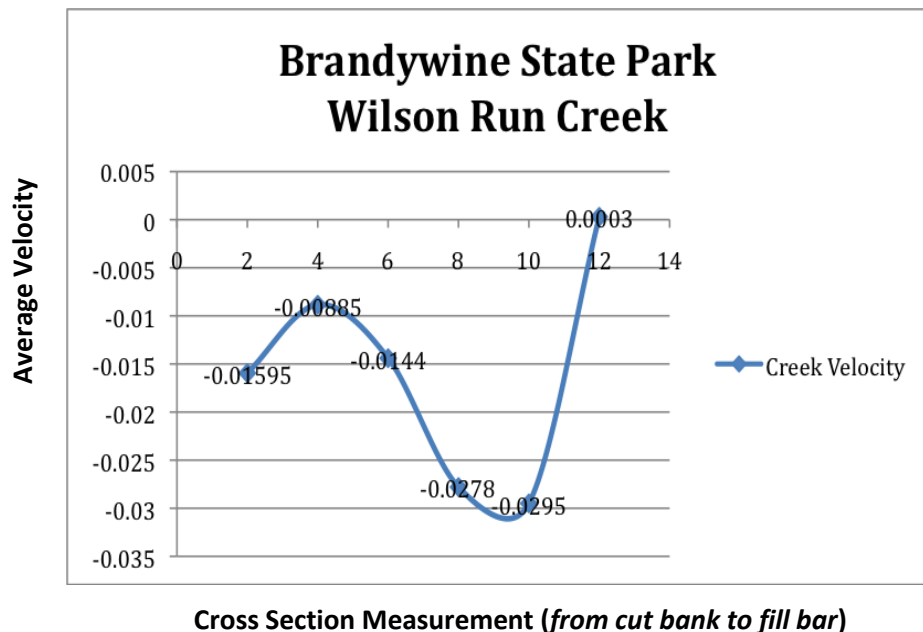
Class \_\_\_\_\_

## Field Study

Two teachers went to Wilson Run creek with a scientific instrument known as a flow meter. They used this instrument to take measurements of the velocity of the creek. They found that water flowed faster on one side of Wilson Creek than it did on the other. They took samples of sediments from each side. They measured the size of the particles and compared them to the Hjulstrom Diagram. This is the data they collected:

**Field Analysis of Data Collected at Brandywine State Park  
Wilson Run Creek on Wednesday, July 14, 2010.  
*Partners on field trip were Linda Smith and Rosalind Williams.***

Cross Section Measurement	Depth	Converted to cm	Direction		Average Direction	Velocity
1 foot =30.48 cm	(at cross section measurement)	30.48	x (cm)	y (cm)	x and y direction	10 sec. measurement
2	4.75	144.78	-0.048	-0.271	-0.1595	-0.01595
4	9	274.32	0.112	-0.289	-0.0885	-0.00885
6	10.5	320.04	0.1	-0.388	-0.144	-0.0144
8	6.5	198.12	-0.176	-0.38	-0.278	-0.0278
10	8	243.84	-0.107	-0.483	-0.295	-0.0295
12	6.5	198.12	0.007	-0.001	0.003	0.0003



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If the Hjulstrom Diagram is correct, which set of sediments came from the slower side of the stream (known as the point bar) and faster side (known as a cut bank)?

Give reasons for your answers

Answers may vary

The top picture is from the cut bank. The velocity of the water there was faster, so the smaller particles were moved. The bottom picture is from the fill bar because the water was slower, so the smaller particles were left behind.

Which side of the stream would be a better side to build a house on?

Give reasons for your answer.

It would be better to build the house on the point bar because there is less of a chance of your house being washed away by the stronger current.